

ABSTRACT

A method of inspecting the steam inlet sleeves on high pressure outer cylinders and the nozzle chamber to cylinder welds on the high pressure steam turbines using linear phased array ultrasonic transducers. The transducers are supported on the surface of the component to be monitored. The transducers are then move axially while monitoring the transducer's output to identify the location to be monitored. The axial extent of the transducers are then fixed and the transducers are moved circumferentially around the surface of the component at least 360° while noting outputs of the transducers indicative of fatigue-induced flaws. The transducers are then routed to the location on the wall of the component where the most significant flaw was noted. Then the transducers are successively focused at different depths in the wall where the most significant flaw was identified to further characterize the depth and size of the flaw.